

accessed. Thus, any user attempting to make fraudulent use of the operating system in order to recover data pertaining to a particular application is refused access to this data. The bits of the state register in  
5 this case are different from the bits that might correspond to a call instruction DCALL of the particular application in question.

The addresses to be accessed and the bits of the register R sent by the microprocessor via link 230  
10 are compared with each other in the access controller of the memory 220. If the addresses of the memory to be accessed are not addresses belonging to the authorized field of the last application having performed a call instruction DCALL, then information on  
15 illegal access to the memory is prohibited.

The device according to the invention thus provides great security in the sense that data elements intended for one application cannot be used by another application. A second register CS makes it possible to  
20 retain in memory a code proper to the applications that were active at the last call instruction DCALL sent by the current application, namely those that are to be performed following the current application.

When the current application has completed  
25 execution, a return instruction DRET is executed by the microprocessor and the data elements contained in the second register CS enable a return to the application that was being performed previously and had been activated by a call instruction DCALL. The register R  
30 is also updated.

The second register CS cannot be directly accessed by the applications of the chip card. This is to ensure the integrity of the device when it is put into operation during the execution of a return  
35 instruction DRET. When the execution of the current

application is finished, the bits of the register R  
assume a value specific to the application that was  
being performed previously, restoring its rights and  
limits in terms of memory access. The memory zone  
5 access device according to the invention gives a high  
level of security in terms of access to the different  
zones of the memory for a software architecture such as  
the one shown in Figure 1.

**THAT WHICH IS CLAIMED IS:**

1. A device for access to applications of a chip card comprising a microprocessor associated with an operating system working with a set of instructions, a program memory and a battery of applications in a  
5 memory of the chip card, wherein the device comprises:

a register of the microprocessor to store a code, on several check bits, proper to an entity brought into play,

a call instruction and an instruction for the  
10 return of the set of instructions to instantaneously and automatically update the register during the action by a new entity,

a checking device for the checking, as a function of the check bits, of the authorized nature of  
15 the access to the zones of the memory of the chip card by the new entity that is called or takes action in the chip card,

a first link to transmit the check bits from the microprocessor to the checking device.

2. A device for access to applications of a chip card according to claim 1, comprising a second register to store a code proper to the applications active at the time of the last call instruction sent.

3. A device for access to applications of a chip card according to one of the claims 1 or 2, wherein the entity that is called or takes action in the chip card is an application of the battery of  
5 applications.

4. A device for access to applications of a chip card according to one of the claims 1 or 2, wherein the entity is a hardware event.